

1.7 Technical specifications

Table 4 Technical specifications

Model	Mercury-40K、Mercury-40K-PV	Mercury-60K、Mercury-60K-PV
DC low voltage side		
Rated power	40kW (PV input 4*10kW)	60kW (PV input 4*15kW)
Rated current	120A (PV input 4*30A)	180A (PV input 4*45A)
Rated voltage	350V	350V
Maximum voltage	1000V	1000V
Voltage range	150~1000V	150~1000V
Minimum voltage at full power	340V	340V
Voltage requirements on the low-voltage side of the step-down mode	150V ≤ Voltage at the low voltage end ≤ Voltage at the high voltage end, up to 1000V	
Low-voltage starting voltage	150V	150V
DC high voltage side		
Rated power	40kW	60kW
Rated current	60A	90A
Rated voltage	700V	700V
Maximum voltage	1000V	1000V
Voltage range	350~1000V	350~1000V
Full power voltage range	650~950V	650~950V
Voltage requirements on the high-voltage side in boost mode	1000V ≥ Voltage at the high voltage end*0.95 > Voltage at the low voltage end, minimum 350V	
Starting voltage on the high-voltage side	350V	350V
Protection and functionality		
Reverse connection protection	Yes	
Fuse protection	Yes	
Over-current protection	Yes	
Overvoltage/undervoltage protection	Yes	
Overtemperature protection	Yes	
Short circuit protection on the low-voltage side	Yes	
Insulation resistance detection	Yes	
Overvoltage level	Type II	
Surge protection level	Type II	
Basic working mode	Bidirectional constant power, bidirectional constant current, bidirectional constant voltage, bidirectional MPPT	
Circuit operating mode	4-way parallel operation, 4-way 90° staggered parallel operation, MPPT	
Bidirectional bypass operating mode	Meets the two-way direct energy flow between low voltage and high voltage (eliminates high and low voltage differences)	
Forward and reverse switching time	Full load switching time 30ms	
System parameters		
Topology	Non-isolated	
IP rating	IP20	
Operating temperature range	-30℃ to +60℃ (> 45℃ derated)	
Relative humidity	< 95% (non-condensing)	
Maximum operating altitude	4000m (> 3000m derated)	
Maximum efficiency	99%	
Cooling mode	Intelligent forced air cooling	
Communication mode	RS485/CAN/Ethernet	
Display	LED	
Maximum number of parallel connections	8	
Mechanical parameters		

Weight	25kg
Dimensions (W*H*D)	444mm*130mm*550mm (excluding terminals)
Installation method	Cabinet type fixed installation (left and right ears)
Standards	
Safety norms	IEC62477-1, IEC62109-1
EMC	IEC 61000-6-2, IEC 61000-6-3